Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A method of determining an optimal control profile for adjusting tray-in/out speeds of a tray in an optical disk drive, comprising:

setting a plurality of control profile sets;

driving the tray for movement with ~~an initial~~ a control profile among the control profile sets;

measuring a plurality of tray speeds of the tray when achieving a plurality of predetermined points in the ~~initial~~ control profile;

determining a plurality of comparison values according to the plurality of tray speeds and a plurality of predetermined tray speeds; ~~and~~

checking if the control profile is acceptable or not according to the comparison values;

if acceptable, setting the control profile as the optimal control profile; and

if not acceptable, determining ~~an optimal~~ a next control profile among the control profile sets according to the comparison values and going to the driving step.

2. (Original) The method of claim 1, wherein the optical disk drive divides tray movement distance of the tray into a plurality of segments with the predetermined points; the optical disk drive further comprising a plurality of sensors operative to measure the speed of the tray corresponding to the predetermined points.

3. (Original) The method of claim 2, wherein tray speeds are calculated according to lengths of the segments and durations of the tray passing through the segments.

4. (Original) The method of claim 1, wherein the comparison values are determined according to differences between the tray speed and the predetermined tray speed.

5. (Original) The method of claim 1, wherein the optimal control profile is determined by selecting one from a plurality of preset control profiles.

6. (Original) The method of claim 1, wherein the movement of the tray is tray-in.

7. (Original) The method of claim 1, wherein the movement of the tray is tray-out.

8. (Original) The method of claim 1, wherein the method is started with an applied software.

9. (Original) A method of determining an optimal control profile for adjusting tray-in/out speeds of a tray in an optical disk drive, comprising:

setting a plurality of control profile sets;

driving the tray for movement according to an initial control profile which is one of the control profile sets for deriving a tray speed function; and

selecting an optimal control profile from the control profile sets according to the tray speed function.

10. (Original) The method of claim 9, wherein the movement of the tray is tray-in.

11. (Original) The method of claim 9, wherein the movement of the tray is tray-out.

12. (Original) The method of claim 9, wherein the method is started with an applied software.

13. (Original) The method of claim 9, wherein the method is capable of being stopped by a user for selecting the optimal control profile from the control profile sets according to individual preference.

14. (Original) A method of determining an optimal control profile for adjusting opening/closing speeds of a cover in an optical disk drive, comprising:

setting a plurality of control profile sets;

driving the cover for movement according to an initial control profile which is one of the control profile sets for deriving an cover speed function; and

selecting an optimal control profile from the control profile sets according to the cover speed function.

15. (Original) The method of claim 14, wherein the movement of the cover is cover-open.

16. (Original) The method of claim 14, wherein the movement of the cover is cover-close.

17. (Original) The method of claim 14, wherein the method is started with an applied software.

18. (Original) The method of claim 14, wherein the method is capable of being stopped by a user for selecting the optimal control profile from the control profile sets according to individual preference.